Annual Index
Westinghouse ENGINEER
Volume 28, 1968

Subject Index

(PI . . . Products for Industry; TP . . . Technology in Progress)

A

Aerospace. See Motor; Radar.
Air Conditioning. See Environmental control.
Aircraft
microwave interferometer calibrates instrument landing systems. H. W. Cooper and C. H. Grauling, Jr. Sept 1968. p151–5.
temperature control reduces window replacement. TP. Sept 1968. p156.
Alloy. See Metallurgy.
Atomic energy. See Nuclear energy.

B

Brazing. See Circuit breaker.
Breeder reactor. See Nuclear energy.
Building. See Environmental control; Lighting.

C

Cachalot diving system. See Marine.
Camera. See Television.
Capacitor, experimental lightweight can operate at 1100 degrees F. TP. May 1968. p93.
Circuit breaker
induction brazing system improves quality of breaker contacts. TP. July 1968. p125.
outdoor oil. PI. Sept 1968. p160.
SF_6 for metal-clad switchgear. R. Frink and J. M. Kozlovic. May 1968. p71–5.
See also Switch.
Cobalt. See Metallurgy.
Communications. See Power supply.
Computer
analog-to-digital converter. PI. Sept 1968. p159.
controls sign lighting. TP. Jan 1968. p30.
let process-control do more. G. C. Turner. Sept 1968. p139–42.
program simulates proposed transit systems and evaluates them economically. W. B. Stewart and R. Mason. May 1968. p82–7.
used to estimate cost factors in electric home heating. TP. Mar 1968. p61.
See also Control.
Control
computer time sharing for numerical machine tools. F. Carr. Nov 1968. p175–9.
group unit for motor starters. PI. Mar 1968. p64.
high-pressure pneumatic transmitter. PI. Jan 1968. p32.
industrial process and instrumentation. P. E. Lego. Sept 1968. p135–8.
Control *(continued)*
optimized integrated process saves space and installation costs. TP. Nov 1968. p187.
See also Computer; Drive systems; Generator.
Crane. See Drive.

D

Desalting, reverse osmosis studied for water. TP. May 1968. p94.
Diode. See Rectifier.
Diving system. See Marine.
Drive
adjustable-speed dc. PI. Sept 1968. p160.
test console for dc systems. PI. Mar 1968. p64.
thyristor dc crane hoist. PI. Nov 1968. p189.
Drive system
solid-state revolution in industrial systems. W. R. Harris. May 1968. p66–70.
See also Industrial system.

E

Electric heating. See Environmental control.
Electric home heating. See Computer.
Environmental control, combining lighting and temperature conditioning saves money in all-electric high-rise building. L. G. Russell. July 1968. p98–103.

F

Floodlighting. See Lighting.
Flowmeter, LE device for measuring liquid flow rates. C. R. Hastings. Nov 1968. p183–6.

G

Gas analysis. See Metallurgy; Transformer.
Gear. See Motor.
Generator
600-MW to be built for Grand Coulee Dam. TP. Nov 1968. p189.
brushless self-excited ac. PI. Nov 1968. p189.
diesel-driven. TP. Sept 1968. p158.
largest shipped. TP. Nov 1968. p187.
special railroad car transports generators assembled. Mar 1968. Inside front cover.
synchronized rapidly and accurately by automatic system. J. H. Bednarek and T. D. Rubner. Sept 1968. p143–50.
See also Insulation; Turbine, gas.

I

Induction heating. See Circuit breaker; Welding.
Industrial system, planned installation speeds startup. W. S. McIntyre. July 1968. p104–7.
Industrial vehicle, cargo tug. PI. Nov 1968. p189.
Insulation, electromagnetic probe detects generator voids. TP. Sept 1968. p158; Back cover.
Integrated circuits
logic board for FAST. Mar 1968. Back cover.
new protective package. TP. July 1968. p125.
users custom-design their own. TP. Sept 1968. p157.
voltage regulator. PI. Jan 1968. p32.
Inverter. See Power supply.

L

Laboratory, utility, builder, and manufacturer operate distribution laboratory. TP. May 1968. p95.
Laminate, copper-clad, for printed circuit panels. PI. May 1968. p96.
Lamp, Ceramalux. PI. Nov 1968. p189.
Landing system. See Aircraft.
Laser
carbon dioxide gas. PI. July 1968. p128.
material operates efficiently at room temperature. TP. Sept 1968. p158.
Levitation melting. See Metallurgy.
Lighting
new techniques enhance effectiveness of building floodlighting. K. Chen and E. B. Karns. July 1968. p118–21.
sealed mercury-lamp floodlight. PI. Sept 1968. p159.
See also Computer; Environmental control.
Load-shedding. See Relay.
Lunar. See Television.

M

Machine tool. See Control.
Magnet, superconducting. PI. May 1968. p96.
Magnetic alloy. See Metallurgy.
Mapping. See Radar.
Marine
deep submergence diving system (Cachalot-850) nears completion. TP. Jan 1968. p31.
Deepstar submersible for 20,000 feet. TP. Sept 1968. p156.
Medical devices, pulmonary simulator developed for human breathing studies. TP. Mar 1968. p61.
Metallurgy
cobalt-base magnetic alloy remains useful at high temperature. TP. Mar 1968. p61–2.
sampling method improves sensitivity of analysis for gases in metals. J. F. Zamaria and W. M. Hickam. July 1968. p122–4.
Micarta. See Laminate.
Microwave. See Aircraft.
Moon. See Television.

Annual Index
Westinghouse ENGINEER
Volume 28, 1968

Subject Index

(PI . . . Products for Industry; TP . . . Technology in Progress)

A

Aerospace. See Motor; Radar.
Air Conditioning. See Environmental control.
Aircraft
microwave interferometer calibrates instrument landing systems. H. W. Cooper and C. H. Grauling, Jr. Sept 1968. p151–5.
temperature control reduces window replacement. TP. Sept 1968. p156.
Alloy. See Metallurgy.
Atomic energy. See Nuclear energy.

B

Brazing. See Circuit breaker.
Breeder reactor. See Nuclear energy.
Building. See Environmental control; Lighting.

C

Cachalot diving system. See Marine.
Camera. See Television.
Capacitor, experimental lightweight can operate at 1100 degrees F. TP. May 1968. p93.
Circuit breaker
induction brazing system improves quality of breaker contacts. TP. July 1968. p125.
outdoor oil. PI. Sept 1968. p160.
SF_6 for metal-clad switchgear. R. Frink and J. M. Kozlovic. May 1968. p71–5.
See also Switch.
Cobalt. See Metallurgy.
Communications. See Power supply.
Computer
analog-to-digital converter. PI. Sept 1968. p159.
controls sign lighting. TP. Jan 1968. p30.
let process-control do more. G. C. Turner. Sept 1968. p139–42.
program simulates proposed transit systems and evaluates them economically. W. B. Stewart and R. Mason. May 1968. p82–7.
used to estimate cost factors in electric home heating. TP. Mar 1968. p61.
See also Control.
Control
computer time sharing for numerical machine tools. F. Carr. Nov 1968. p175–9.
group unit for motor starters. PI. Mar 1968. p64.
high-pressure pneumatic transmitter. PI. Jan 1968. p32.
industrial process and instrumentation. P. E. Lego. Sept 1968. p135–8.
Control *(continued)*
optimized integrated process saves space and installation costs. TP. Nov 1968. p187.
See also Computer; Drive systems; Generator.
Crane. See Drive.

D

Desalting, reverse osmosis studied for water. TP. May 1968. p94.
Diode. See Rectifier.
Diving system. See Marine.
Drive
adjustable-speed dc. PI. Sept 1968. p160.
test console for dc systems. PI. Mar 1968. p64.
thyristor dc crane hoist. PI. Nov 1968. p189.
Drive system
solid-state revolution in industrial systems. W. R. Harris. May 1968. p66–70.
See also Industrial system.

E

Electric heating. See Environmental control.
Electric home heating. See Computer.
Environmental control, combining lighting and temperature conditioning saves money in all-electric high-rise building. L. G. Russell. July 1968. p98–103.

F

Floodlighting. See Lighting.
Flowmeter, LE device for measuring liquid flow rates. C. R. Hastings. Nov 1968. p183–6.

G

Gas analysis. See Metallurgy; Transformer.
Gear. See Motor.
Generator
600-MW to be built for Grand Coulee Dam. TP. Nov 1968. p189.
brushless self-excited ac. PI. Nov 1968. p189.
diesel-driven. TP. Sept 1968. p158.
largest shipped. TP. Nov 1968. p187.
special railroad car transports generators assembled. Mar 1968. Inside front cover.
synchronized rapidly and accurately by automatic system. J. H. Bednarek and T. D. Rubner. Sept 1968. p143–50.
See also Insulation; Turbine, gas.

I

Induction heating. See Circuit breaker; Welding.
Industrial system, planned installation speeds startup. W. S. McIntyre. July 1968. p104–7.
Industrial vehicle, cargo tug. PI. Nov 1968. p189.
Insulation, electromagnetic probe detects generator voids. TP. Sept 1968. p158; Back cover.
Integrated circuits
logic board for FAST. Mar 1968. Back cover.
new protective package. TP. July 1968. p125.
users custom-design their own. TP. Sept 1968. p157.
voltage regulator. PI. Jan 1968. p32.
Inverter. See Power supply.

L

Laboratory, utility, builder, and manufacturer operate distribution laboratory. TP. May 1968. p95.
Laminate, copper-clad, for printed circuit panels. PI. May 1968. p96.
Lamp, Ceramalux. PI. Nov 1968. p189.
Landing system. See Aircraft.
Laser
carbon dioxide gas. PI. July 1968. p128.
material operates efficiently at room temperature. TP. Sept 1968. p158.
Levitation melting. See Metallurgy.
Lighting
new techniques enhance effectiveness of building floodlighting. K. Chen and E. B. Karns. July 1968. p118–21.
sealed mercury-lamp floodlight. PI. Sept 1968. p159.
See also Computer; Environmental control.
Load-shedding. See Relay.
Lunar. See Television.

M

Machine tool. See Control.
Magnet, superconducting. PI. May 1968. p96.
Magnetic alloy. See Metallurgy.
Mapping. See Radar.
Marine
deep submergence diving system (Cachalot-850) nears completion. TP. Jan 1968. p31.
Deepstar submersible for 20,000 feet. TP. Sept 1968. p156.
Medical devices, pulmonary simulator developed for human breathing studies. TP. Mar 1968. p61.
Metallurgy
cobalt-base magnetic alloy remains useful at high temperature. TP. Mar 1968. p61–2.
sampling method improves sensitivity of analysis for gases in metals. J. F. Zamaria and W. M. Hickam. July 1968. p122–4.
Micarta. See Laminate.
Microwave. See Aircraft.
Moon. See Television.

Motor
aerospace electric. R. W. Griffith and F. J. Bertolino. July 1968. p111–2.
gear units tailored for water aeration. TP. Sept 1968. p157.
pumping a river over a mountain. TP. Jan 1968. p30.
selecting ac motors for economy with capability. C. R. Olson and E. S. Mekedy. Mar 1968. p38–40.
starting studies avert electrical system problems. TP. Sept 1968. p156.
See also Control.

N

Nuclear energy
core design and performance considerations of fast breeder reactors. J. H. Wright. Jan 1968. p16–21.
fast-neutron breeder power reactors . . . some basic concepts. R. J. Creagan. Jan 1968. p8–15.
high-gain breeder reactors can stabilize uranium fuel requirements. J. C. Rengel. Jan 1968. p3–7.
partnership approach for timely development of breeder reactor. J. W. Simpson. Jan 1968. p2.
prototype plant will prove the fast breeder reactor concept. J. C. R. Kelly, Jr., and P. G. DeHuff. Jan 1968. p22–8.
reactor vessel shipment sets size records. Nov 1968. Inside front cover.
record power level attained in PWR plant. TP. Sept 1968. p159.
Yankee pressurized-water plants. Jan 1968. Inside front cover.
Numerical control
machine tool. PI. July 1968. p128.
See also Control.

P

Peaking plant. See Turbine, gas.
Plutonium. See Nuclear energy.
Power plant
flood-proof power station. TP. Jan 1968. p29.
See also Nuclear energy; Turbine, gas.
Power supply
packing more inverter capability into spacecraft power systems. TP. Mar 1968. p62.
uninterruptible power supply serves defense communications. TP. Mar 1968. p62.
See also Drive system; Rectifier; Thermoelectricity.
Power system
short-circuit studies for industrial. TP. Nov 1968. p338.
See also Laboratory; Relay.
Process control. See Computer; Control.
Pulmonary simulator. See Medical devices.
Pump
electronic vacuum. PI. July 1968. p128.
single principle applied for molten metals. TP. May 1968. p95.

R

Radar
all-weather mapping. A. A. Nims. May 1968. p76–81.
mapping Darien Province. Sept 1968. Inside front cover.
multiple test ranges. TP. July 1968. p126.
Radio telescope
Caltech. May 1968. Back cover.
Owens Valley Observatory. B. Rule and G. F. Gayer. Nov 1968. p162–7.
Rapid transit. See Transportation.
Reactor, nuclear. See Nuclear energy.
Rectifier, diode controls high power. R. M. Hruda. Nov 1968. p180–2.
Relay
developing automatic load-shedding programs with underfrequency relays. H. E. Lokay and V. Burtnyk. Mar 1968. p52–7.
electric utility demand billing. PI. Mar 1968. p64.
industrial control. PI. July 1968. p128.
solid-state reclosing systems. W. A. Elmore. Nov 1968. p168–74.

S

Steam tables. See Turbine, steam.
Sulfur hexafluoride. See Circuit breaker.
Superconductivity. See Magnet.
Switch
load-break. PI. May 1968. p96.
vacuum interrupter. PI. Jan 1968. p32.
Switchgear. See Circuit breaker.
Synchronizer. See Generator.

T

Telescope. See Radio telescope.
Television, Apollo lunar camera. E. L. Svensson. Mar 1968. p46–51.
Thermoelectricity, modular generator is versatile remote power source. TP. July 1968. p127.
Transformer
gas analysis as a diagnostic tool. H. E. Sleggard. Mar 1968. p58–60.
prototype 500-MVA autotransformer for 765-kV system. May 1968. Inside front cover.
Transistor
manufacture. Jan 1968. Back cover.
produced on flexible inorganic substrates. TP. Nov 1968. p187; Back cover.
silicon power. PI. May 1968. p96.
Transit system. See Computer.
Transportation
mockup of supervisory and control office for BART. July 1968. Back cover.
See also Computer.
Tube, electronic
image intensifier tube. PI. Jan 1968. p32.
light-amplifying picture tube used to study faint stars. TP. Jan 1968. p29.
See also Television.
Turbine, gas, package provides both powerplant startup and peaking. P. A. Berman, P. O. Thoits, and A. J. Uijlenhoet. Sept 1968. p130–4.
Turbine, steam, new tables of steam properties improve performance calculations. C. A. Meyer, G. J. Silvestri, Jr., and N. R. Deming. July 1968. p108–10.

U

Ultrasonic energy, compact cleaner. PI. Mar 1968. p64.
Uranium. See Nuclear energy.

V

Vacuum. See Pump.

W

Warehousing, vertical system frees manufacturing space. July 1968. Inside front cover.
Welding
electron-beam welder for use in space. H. G. Lienau, J. F. Lowry, and C. B. Hassan. Mar 1968. p41–5.
induction resistance system for steel tubing. J. A. Redmond. May 1968. p88–92.
pacer. PI. Sept 1968. p159.

X

X-ray, storage and display system stops fluoroscope action. TP. Jan 1968. p29.

(Authors Index on next page)

Author Index

(Author biographies appear on the inside back cover of each issue.)

Bednarek, J. H.
Generators Synchronized Rapidly and Accurately by Automatic System. Sept 1968. p143–50.

Berman, P. A.
Gas-Turbine Package Provides Both Power-Plant Startup and Peaking Service. Sept 1968. p130–4.

Bertoldo, F. J.
Aerospace Electric Motors. July 1968. p111–7.

Burtnyk, V.
Developing Automatic Load-Shedding Programs with Underfrequency Relays. Mar 1968. p52–7.

Carr, F.
Computer Time Sharing Makes Numerical Machine-Tool Control More Effective and More Economical. Nov 1968. p175–9.

Chen, K.
New Techniques Enhance Effectiveness of Building Floodlighting. July 1968. p118–21.

Cooper, H. W.
Microwave Interferometer Calibrates Aircraft Instrument Landing Systems. Sept 1968. p151–5.

Creagan, R. J.
Fast-Neutron Breeder Power Reactors . . . Some Basic Concepts. Jan 1968. p8–15.

DeHuff, P. G.
A Prototype Plant Will Prove the Fast Breeder Reactor Concept. Jan 1968. p22–8.

Denning, N. R.
New Tables of Steam Properties Improve Turbine Performance Calculations. July 1968. p108–10.

Elmore, W. A.
Solid-State Reclosing Systems. Nov 1968. p168–74.

Frink, R.
An SF_6 Circuit Breaker for Metal-Clad Switchgear. May 1968. p71–5.

Gayer, G. F.
A New Radio Telescope for the Owens Valley Observatory. Nov 1968. p162–7.

Grauling, Jr., C. H.
Microwave Interferometer Calibrates Aircraft Instrument Landing Systems. Sept 1968. p151–5.

Griffith, R. W.
Aerospace Electric Motors. July 1968. p111–7.

Harris, W. R.
The Solid-State Revolution in Industrial Drive Systems. May 1968. p 6–70.

Hassan, C. B.
Electron-Beam Welder for Use in Space. Mar 1968. p41–5.

Hastings, C. R.
Leading Edge Flowmeter . . . A New Device for Measuring Liquid Flow Rates. Nov 1968. p183–6.

Hickam, W. M.
Sampling Method Improves Sensitivity of Analysis for Gases in Metals. July 1968. p122–4.

Hruda, R. M.
Simple Diode Rectifier Controls High Power. Nov 1968. p180–2.

Karns, E. B.
New Lighting Techniques Enhance Effectiveness of Building Floodlighting. July 1968. p118–21.

Kelly, Jr., J. C. R.
A Prototype Plant Will Prove the Fast Breeder Reactor Concept. Jan 1968. p22–8.

Kozlovic, J. M.
An SF_6 Circuit Breaker for Metal-Clad Switchgear. May 1968. p71–5.

Lego, P. E.
Industrial Process Control and Instrumentation . . . Many Approaches, But a Place for Each. Sept 1968. p135–8.

Lienau, H. G.
Electron-Beam Welder for Use in Space. Mar 1968. p41–5.

Lokay, H. E.
Developing Automatic Load-Shedding Programs with Underfrequency Relays. Mar 1968. p52–7.

Lowry, J. F.
Electron-Beam Welder for Use in Space. Mar 1968. p41–5.

McIntyre, W. S.
Planned Installation Speeds Startup of Industrial Systems. July 1968. p104–7.

McKelvy, E. S.
Selecting AC Motors for Economy with Capability. Mar 1968. p34–40.

Mason, R.
Computer Program Simulates Proposed Transit Systems and Evaluates Them Economically. May 1968. p82–7.

Meyer, C. A.
New Tables of Steam Properties Improve Turbine Performance Calculations. July 1968. p108–10.

Nims, A. A.
All-Weather Mapping by Radar. May 1968. p76–81.

Olson, C. R.
Selecting AC Motors for Economy with Capability. Mar 1968. p34–40.

Redmond, J. A.
An Improved Induction Resistance Welding System for Steel Tubing. May 1968. p88–92.

Rengel, J. C.
Only High-Gain Breeder Reactors Can Stabilize Uranium Fuel Requirements. Jan 1968. p3–7.

Rubner, T. D.
Generators Synchronized Rapidly and Accurately by Automatic System. Sept 1968. p143–50.

Rule, B.
A New Radio Telescope for the Owens Valley Observatory. Nov 1968. p162–7.

Russell, L. G.
Combining Lighting and Temperature Conditioning Systems Saves Money in All-Electric High-Rise Building. July 1968. p98–103.

Sheppard, H. R.
Transformer Gas Analysis As a Diagnostic Tool. Mar 1968. p58–60.

Silvestri, Jr., G. J.
New Tables of Steam Properties Improve Turbine Performance Calculations. July 1968. p108–10.

Simpson, J. W.
A Partnership Approach Will Assure Timely Development of the Breeder Reactor. Jan 1968. p2.

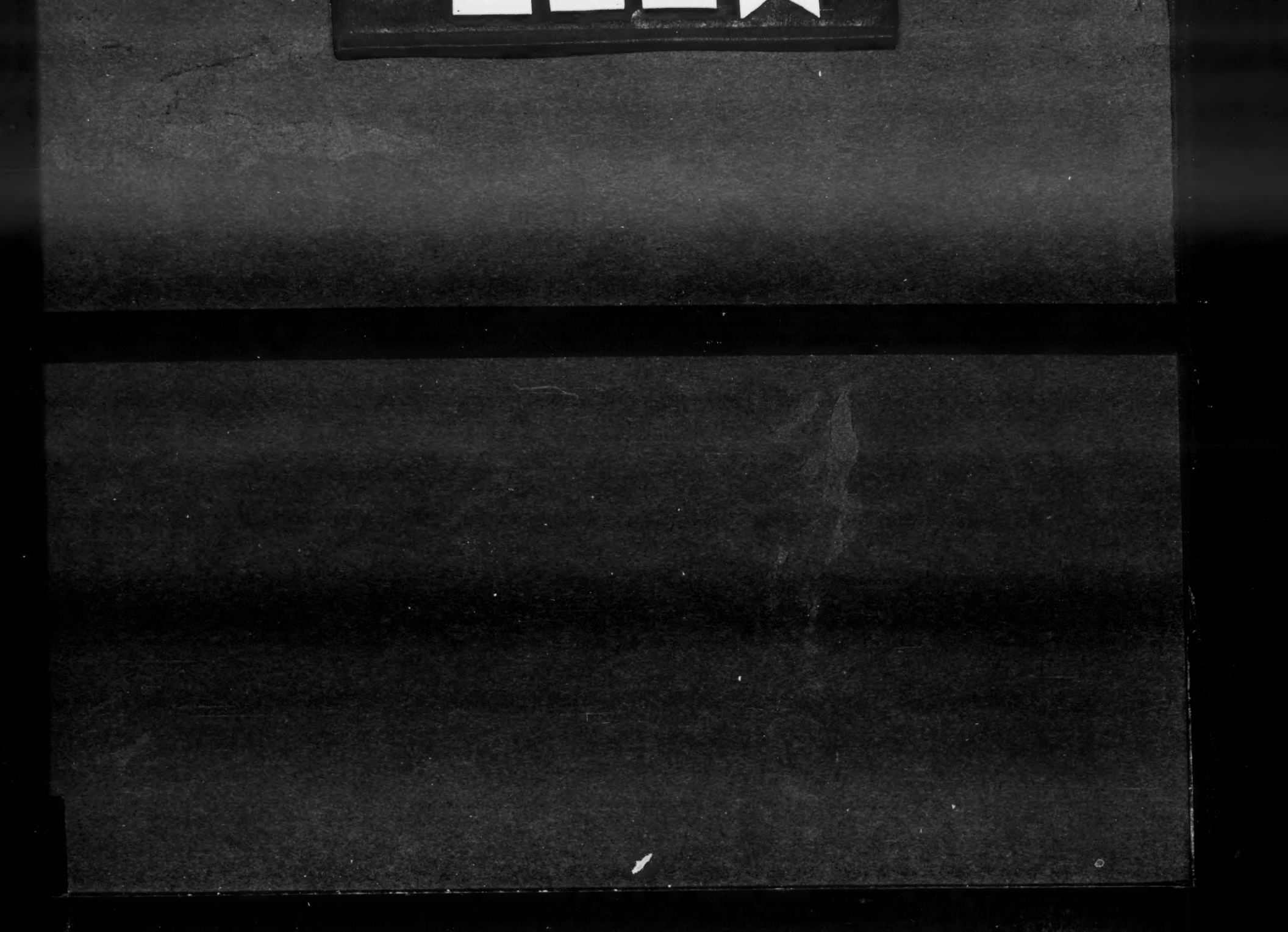
Stewart, W. B.
Computer Program Simulates Proposed Transit Systems and Evaluates Them Economically. May 1968. p82–7.

Svensson, E. L.
The Lunar Television Camera. Mar 1968. p46–51.

Thoits, P. O.
Gas-Turbine Package Provides Both Power-Plant Startup and Peaking Service. Sept 1968. p130–4.

Turner, G. C.
Let Process-Control Computers Do More. Sept 1968. p139–42.

Uijlenhoet, A. J.
Gas-Turbine Package Provides Both Power-Plant Startup and Peaking Service. Sept 1968. p130–4.

Wright, J. H.
Core Design and Performance Considerations of Fast Breeder Reactors. Jan 1968. p16–21.

Zamaria, J. F.
Sampling Method Improves Sensitivity of Analysis for Gases in Metals. July 1968. p122–4.